PETITION

To the Commissioner of Patents and Trademarks
Washington, D.C. 20231

Your Petitioner, STUART G. OXFORD, M.D., R.P.T., M.S., a citizen of the United States and a resident of the State of Nebraska, whose post office address is 13616 North 78th Street, Omaha, Nebraska 68122, prays that Letters Patent may be granted to him for the improvement in

AN ANKLE, LEG AND HIP EXERCISING DEVICE

as set forth in the following specification.

Cross-Reference to Related Application

This is a continuation application of Petitioner's earlier application Serial No. 09/216,782 filed December 18, 1998, entitled AN ANKLE, LEG AND HIP EXERCISING DEVICE.

Background of the Invention

1. Field of the Invention

This invention relates to an exercising device and more particularly to an ankle, leg and hip exercising device.

2. Description of the Related Art

Many types of ankle exercising devices have been previously provided which are designed to enable a person to exercise his/her ankle in an effort to rehabilitate the same. Heretofore, most of the prior art ankle exercising devices only enabled the ankle to be exercised in a fore and aft manner and not in a side-to-side manner. Further, the prior art ankle exercising devices do not have any means associated therewith for increasing or decreasing the resistance of movement to the ankle in a 360° motion. Additionally, the prior art devices do not include any mechanism whereby the person could actually assist the movement of the person's ankle by means other than flexing of

the ankle. Additionally, the prior art devices are not believed to have the capability of permitting the ankle to be exercised while the person is standing, sitting or reclining. Yet another disadvantage of the prior art devices is that they are not believed to have the capability of permitting the exercising of the ankle, leg and hip.

Summary of the Invention

An ankle, leg and hip exercising device is disclosed comprising a lower portion having an upper and a parabolic-shaped lower end whereby the lower end may be selectively positioned on a supporting surface so as to have a full range of movement with respect thereto. A foot supporting and retaining portion is provided at the upper end of the lower portion for supporting and retaining a person's foot therein. At least one exercise attachment receiving means is provided on the foot supporting and retaining portion and preferably includes a means for receiving a weight thereon. Further, the exercise attachment receiving means comprises an upstanding pipe stub adapted to have a first elongated tubular member, having upper and lower ends, having its lower end received by the pipe stub and extending upwardly therefrom. The upper end of the tubular member has a first grip portion thereon to enable the person using the device to either move the device to flex the ankle or to create resistance to the flexing of the ankle. When additional resistance is required, a second tubular member may be slipped over the first tubular member to increase the rigidity thereof. In the preferred embodiment, the foot supporting and retaining portion is selectively removably secured to the lower portion and includes a recessed portion which receives the foot of the person utilizing the device. A heel retainer is also adjustably positioned over the U-shaped member which extends over the forward portion of the person's foot.

Objects of the Invention

It is principal object of this invention to provide an ankle exercising device.

Yet another object of the invention is to provide an ankle, leg and hip exercising device.

Yet another object of the invention is to provide an ankle, leg and hip exercising device which includes a parabolic-shaped member which engages a supporting surface to enable the device to be moved in a 360° manner.

Still another object of the invention is to provide an ankle, leg and hip exercising device which securely positions the user's foot therein.

Yet another object of the invention is to provide an ankle, leg and hip exercising device including a heel retaining means.

Yet another object of the invention is to provide an ankle, leg and hip exercising device including exercise attachment receiving means mounted thereon.

Yet another object of the invention is to provide an ankle, leg and hip exercising device including an upwardly extending tubular member having a hand grip on the upper end thereof which enables the user to resist the movement of the device or to cause movement of the device.

Still another object of the invention is to provide an ankle, leg and hip exercising device which may be used while standing, sitting or reclining.

Still another object of the invention is to provide an ankle, leg and hip exercising device including means for supporting weights thereon so that the weights may be positioned at different angles with respect to the ankle.

Still another object of the invention is to provide an ankle, leg and hip exercising device which permits the ankle to be exercised in a 360° manner.

Still another object of the invention is to provide an ankle, leg and hip exercising device which is conveniently attached to the user's foot.

These and other objects will be obvious to those skilled in the art.

Brief Description of the Drawings

Figure 1 is a rear perspective view of the device of this invention;

Figure 2 is a side elevational view of the device with portions thereof cut away to more fully illustrate the invention;

Figure 3 is a bottom view of the device;

Figure 4 is a perspective view of the device illustrating the manner in which attachments may be secured thereto;

Figure 5 is a side view illustrating a person's foot positioned in the device;

Figure 6 is a view similar to Figure 5 except that a different attachment has been secured thereto; and

Figure 7 is a view similar to Figures 5 and 6 except that a weight has been secured to the device which is positioned forwardly of the device.

Description of the Preferred Embodiment

The ankle, leg and hip exercising device of this invention is referred to generally by the reference numeral 10 and includes a lower parabolic-shaped base portion 12 having an upstanding bracket 14 at its forward end, an upstanding bracket 16 at its rearward end, and upstanding brackets 18 and 20 at its opposite sides. A foot supporting and receiving mantle 22 is positioned on and secured to the base portion 12 by means of bolts or screws 24 extending through the brackets 14, 16, 18 and 20 and the upstanding brackets 26 extending upwardly from the rearward and forward ends and the opposite sides of the foot receiving and supporting portion 22. Foot supporting and receiving portion 22 is provided with a recessed area 28 defined by side walls 30 and 32 adapted to receive the foot of the user. An inverted U-shaped member 34 is secured to the side walls 30 and 32 by screws or bolts 36 and extends upwardly therefrom. As seen in the drawings, the U-shaped member 34 tapers from its rearward

end to its forward end and has an open forward end 38. A pair of collars 40 and 42 are secured to the sides of the U-shaped member 34 and are adapted to receive rods 44 and 46 therein which extend forwardly from a heel retaining member 48. The position of the heel retaining portion 48 is selectively adjustable with respect to the collars 40 and 42 by means of set screws 50 extend into the collars 40 and 42 and which engage the rods 44 and 46. The rigid rods 44 and 46 and the heel retaining portion 48 may be replaced by an elastic strap 52 having hooks 54 and 56 secured to the opposite ends thereof which may be attached to the collars 40 and 42, respectively. Preferably, the forward surface of the heel retaining portion 48 and the interior surface of the U-shaped member 34 is lined with a foam cushioning material.

A pair of exercise attachment pipe stubs 58 and 60 are secured to the foot receiving and supporting mantle 22 at the opposite forward ends thereof and are adapted to receive exercise devices as will be described hereinafter. A threaded stud 62 is secured to the upper portion of the U-shaped member 34 and extends upwardly therefrom and has a threaded pipe stub 64 threadably mounted thereon. A pipe stub 66 is also secured to the upper surface of the U-shaped member 34 and extends upwardly therefrom, as illustrated in Figure 1. Additionally, a horizontally extending pipe stub 68 is secured to the upper portion of the U-shaped member 34 and extends forwardly therefrom.

The pipe stubs 58, 60, 64, 66 and 68 are designed to receive various devices. As illustrated in Figure 4, pipe stub 68 is adapted to receiving a shaft or rod 70 therein adapted to have a circular weight 72 mounted thereon to increase the resistance of the upward movement of the forward end of the device during exercising. Pipe stub 64 is adapted to receive the lower end of a handle-like member 74 therein which is adapted to support a weight 76 thereon. The handle member 74 may be manually grasped by

the user of the device to either move the device in any of its 360° motions or to resist the movement of the device in any of its 360° motions.

The numeral 78 refers to a flexible tubular member having its lower end 80 adapted to be inserted in the pipe stub 66, as illustrated in Figure 4, and which has a handle 82 at its upper end. The tubular member 78, when mounted in the pipe stub 66, enables the user to resist the movement of the device or to move the device. When it is desired to increase the resistance of the tubular member 78, a larger tubular member 84 is slipped over tubular member 78 which decreases the flexibility of the member 78.

It can therefore be seen that an ankle, leg and hip exercising device has been provided which enables exercise of the particular portion of the user's body in any of 360° motions. The device includes means for positioning weights on the device at either the forward end, opposite sides or at the upper portion thereof to provide the proper resistive motion to the device. Further, the device is able to be used while either sitting, standing or reclining. Additionally, the use of the members 74 or 78 enables the user to either assist in the movement of the ankle or to resist movement of the ankle.

Thus it can be seen that the invention accomplishes at least all of its stated objectives.